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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,959	01/05/2004	Maurizio Ferrari	2545-0436	2028

7590 12/19/2005

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EXAMINER

ROSS, DANA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,959

Applicant(s)

FERRARI ET AL.

Examiner

Dana Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/27/04; 1/5/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claim 14 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 21 November 2005.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 5, 7 and 9 recite the limitation "the displacement sensor". There is insufficient antecedent basis for this limitation in the claims.

Claims 11 and 12 recite the limitation "the selfsame tool-holder" and "the selfsame housing", respectively. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5, 6, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5,123,789 (Ohtani et al., hereafter '789).

'789 teaches a spindle 13 with rotational tool 15 and collet 14, the spindle head 9 slidably supported on a rockable slider 5, the rockable slider 5 mounted to the spindle which is mounted to the pressure foot 18 through brackets 17 (see col. 4, lines 4-30, for example); a pressure foot 18 (stop cage element) slideable axially relative to the tool holder and positional against the surface of a workpiece through pneumatic cylinders 16 (rods) (see col. 4, lines 18-30, for example); sensing means 20 with optical sensor 21 to sense the axial position of the tool-holder (see col. 4, lines 31-45 and col. 5, lines 64-68, for example); the sensing means with sensor 21 connected to a computing circuit 32 and controller 34 (see figure 1, for example);

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 4, 7-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over ‘789 in view of US Pat. Publication 2001/0018861 (Glasson, hereafter ‘861).

‘789 teaches all aspects of claim 1 and 11 as discussed above.

‘789 teaches the use of an optical sensor to measure the displacement.

‘789 does not expressly disclose the use of a displacement sensor that is an LVDT transducer, inductive transducer or laser displacement sensor, or the details of the springs to bias the pressure foot.

‘861 teaches it is well known in the art to use various types of displacement sensors including LVDT transducers (paragraph 0011, for example), inductive transducers (paragraph 0044, for example) and laser sensors (paragraph 0044, for example).

‘861 also teaches it is well known in the art to use spring means to bias elements in a cylinder (see paragraphs 0016 and 0035, for example).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensors and cylinders as taught by ‘789 to include the well known use of LVDT transducer, inductive transducer or laser sensors with the cylinders with spring biasing as taught by ‘861 for the purpose of providing a variety of sensors, depending on availability to accurately measure the displacement of the pressure foot as replacement sensors are needed and

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to provide a cylinder that provides a sensor that can safely be located within the hydraulic cylinder and which prevents the piston from contacting and potentially damaging the sensor (see '861, paragraph 0051, for example).

It is further noted that though '789 teaches the use of an optical sensor, the use of different types of displacement sensors is well known in the art (as is evidenced by '861). At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to use an LVDT transducer, inductive transducer or laser sensor because Applicant has not disclose that the use of one of these sensors provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the sensors as taught by '861 because the purpose of the optical sensor of '789 and the sensors of '861 both teach the use of the sensors for measuring displacement.

It is further noted that though '789 does not expressly disclose the LVDT transducer, inductive transducer or laser sensors, the use of LVDT transducer, inductive transducer or laser sensors is notoriously well known in the machine tool art for the purpose of measuring displacement are functional equivalents to '789's optical sensor, and as such, it would be obvious, absent a statement of criticality, to substitute one known functional equivalent for another, depending for example on the availability of components at the time of assembly. Therefore because the use of the various displacement sensors were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the LVDT transducer, inductive transducer or laser sensors for the optical sensor.

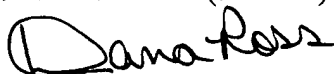
Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is 571-272-4480. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dana Ross
Examiner
Art Unit 3722



dmr